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FOREWORD

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A MIRROR SHOULD NOT HAVE DEFECTS

Following is the translation of an article by
Gds Lt Gen Avn V. Dodonov in Krasnaya Zvezda
(Red Star), 4 January 1961, page 2.7

The academic year is over. The results of the hectic summer work are in. Let us glance at the summaries, reports, plan-schedules, let us leaf through pilot flight logs, let us attempt to decipher the dry statistical, but uniquely expressive in its own way, language of these documents. What do they say? Let us take as an example the reports of the podrazdeleniye where Officer Vorkov serves. Figures, figures and more figures... Here is a column -- the "plan", and further on -- the "execution". The figures in the second column are equal to those in the first, and in several cases, exceed the latter. This means that the combat training plan was fulfilled successfully. During the past year the fighter pilots have taken a bold and great step forward. They have all increased their flight skills, and many have become masters at making intercepts on aerial targets under any and all weather conditions and at all altitudes.

Here we shall not err if we state that the main credit for achieving this success is due to the commander -- the skillful organizer of the training process. All report documents drawn up here are always objective and reflect the actual picture of things. The commander and his staff systematically analyze the results achieved, reveal weak spots and apply practical measures for eliminating these defects. At the same time, an objective and accurate report makes it possible for the senior officer, together with a personal study of the situation on the spot, to estimate correctly the potential of the podrazdeleniye, to place before it actual tasks. This is one of the important conditions which predetermine the success of podrazdeleniya in combat training. The significance of objectivity in summing up results and drawing up reports cannot be overestimated. At the same time cases are common whereby commanders, in summing up results, are quite lavish with praise and mention shortcomings merely in passing. "Why should I paint a bad picture of my-

self in the eyes of the senior officer?" they reason. "They will always be able to chew me out, while it is always difficult to win praise." Officer Diyl' once approached the drawing up of a report from this point of view. To put it mildly, what he presented to the higher staff headquarters concerning pilot training did not correspond to actuality. Diyl' was clearly fishing for praise, avoiding the mention of defects, making it clear that defects are easy to eliminate during the course of training.

We might mention one other example. The commander of one of the podrazdeleniya, Capt Nazar'yev, always attempted to report on the training and instruction of his men in such a manner as to place himself in as advantageous a light as possible. His figures found their way subsequently into reports. In the soyedineniye staff headquarters, certain persons began to form an opinion of Nazar'yev's company as one of the top ones. It was announced to be an excellent company, and the commander was presented for praise and material encouragement. Soon however it was learned that the training and particularly the instruction of soldiers and sergeants were not at all as Capt Nazar'yev had depicted in his reports. The workers of the chast' headquarters sounded the alarm: they had been deceived. They, relying on figures appearing on paper, were not aware of the true state of affairs in the company. The endeavor to smooth out roughnesses in the organization of the training process and to raise results artificially is manifested not only in summaries and reports. In some podrazdeleniya one can leaf through flight logs, and the impression is left that everything is in perfect order: the exercises are carried out in strict sequence and essential conditions are observed. But if one compares these notations with the actual state of affairs, one sees flaws immediately. For example, increasingly complicated tasks are provided in training young pilots for instrument flying under complicated meteorological conditions. However, certain commanders purposely simplify things. "This will make things run more smoothly," they reason. "In addition, the plan is fulfilled more rapidly." Cases occur whereby pilots have even received a higher rating, although this rating does not correspond to their actual training. This is what happened in the final analysis. For example, it was necessary to send such a pilot. The weather was poor. The commander began to be harrassed by doubts. "He has not been trained to fly under complicated conditions," they say to the commander. "Well, he is trained, but nevertheless I shall send someone else." It turns out that they raised the rating for this pilot by stretching a point. Actually he had been training under simplified

conditions.

Let us return to another document -- the flight controller's log. This also should reflect the true state of affairs during training flights. However, certain flight controllers are afraid to add notations of omissions and errors. "If I do this," the flight controller reasons, "they will get after me. They will say that flight training was poorly organized. No, I had better be quiet about this." Once we came across such a situation in the X Air Force Chast'. Many violations of flight regulations here had not been noted in the flight controller's log and, naturally, proper countermeasures had not been taken. For example, Officer Borisov, executing a flight to a nearby airfield, committed a serious error upon landing. But this pre-condition for a flight accident was not noted down anywhere. They simply were silent about it. But Borisov often is called upon to control flights himself. Is it surprising that he is just as lenient toward the errors of other fliers? We should like to mention such an important commander's quality as the ability to analyze the results of training, reflected in reports, to carry out operative measures for the elimination of defects. Those places where this is not given sufficient attention, as a rule, mistakes are not eliminated but ingrained. Before me lies a verification document of an Air Force podrazdeleniye. I look at the mark: satisfactory. This podrazdeleniye received the same mark last year. Why is it marking time? We were interested in this and here is what we found out. Pilot combat training is not carried out on a broad front here, but quite narrowly. In one case they "put the pressure" on flight training, in another -- on technical training. The rest of the flight program is largely forgotten. The result is that the podrazdeleniye receives a good or even excellent mark in flight training, while in drill training and regulations -- considerably lower marks. Would it have been possible to eliminate these defects in time? Of course it would have been possible! In the chast' leaders, drawing up and signing reports, had analyzed them thoughtfully, they would have easily noted the lagging in the fulfillment of the program for drill, marksmanship training, regulations and would have taken measures to eliminate these defects. Unfortunately, this was not done.

Certain senior headquarters sometimes fail to carry out their role in full measure. Receiving a report from a chast', the workers in headquarters would at best scan the basic figures, conclusions, and then they would file it away. Not everyone finds time to make a deep analysis as to what each figure stands for and not everyone finds time to compare these figures with actuality, to penetrate the qualitative

side of training. Cases often occur in chasti where headquarters workers limit the entire matter to the collection of figures, rate the work of the commanders only according to flight time, number of air battles, firing practices, etc.

One flight differs from another. It is a well-known fact that flight organization for air combat is one of the most complicated types of pilot training. Certain commanders prefer to do it the easy way in these cases: they plan it so that their pilots fly mostly under "average" conditions. The summary figures look wonderful and the impression is created that everything is going fine. But people often do not even think of what is hiding behind these figures. This leads to errors in planning, in evaluating the actual training situation. Headquarters should not merely limit itself merely to a systematization of figures received from reports. Verification of the actual state of affairs on the spot and concrete aid to the men -- this is what should form the basis of headquarters activities.

I cannot refrain from posing the following question: is present report documentation fully satisfactory? To answer this question in the affirmative means to play the hypocrite. In the first place, it is overly bulky, and, in the second place, does not answer many important questions dealing with the activities and operations of the forces. Report documentation should be simplified and it should not take up much of the time of headquarters workers. How should we approach this problem? In our opinion, headquarters should be sent reports only on the basic problems of combat training, without excess details. The practice has arisen in the forces of presenting reports expressed in average figures. Is this good or bad? In our opinion it is not too good. For example, a podrazdeleniye reports that average flights break down to so many hours per year per pilot. It would seem that this is a fine result. But if one penetrates more deeply -- one sees that some pilots flew the maximum amount of hours, while others flew the minimum. A great differentiation is seen in the training of the podrazdeleniye pilots. It turns out that a serious defect in the organization of combat training is hiding behind the average, at first glance comforting figure.

It is evident that we cannot be carried away by average figures. Reports are also necessary which would make it possible to present the positive sides of the training process. A report is a mirror in which the condition of the combat training of a podrazdeleniye or chast' is reflected. It is important for the mirror to be clean, without defects, so that it reflects accurately the true state of affairs. Only under these conditions does a report justify its designation.

MILITARY FORTUNES

Following is the translation of an article by Lt Col S. Andrianov in Krasnaya Zvezda, 1 May 1961, page 3.

On that Sunday all talk was about the apple tree. Early that morning someone had run into the barracks and shouted at the top of his voice: "Hey fellas, it's blossomed!" The soldiers ran noisily out to the street and surrounded a small sapling. It was warm and sunny, just like summer. The apple tree stood apart from the pines, full in the sun. Above its elongated emerald leaves the first blossoms gaily jutted upward, as if carved out of white marble. Three years ago, returning from his leave, the battery commander brought a seedling to this distant taiga garrison. Everyone took care of it. In the summer they cultivated the ground, watered it and in the winter they shielded it from the cold and from the strong winds. Some persons, looking at the cloddy earth, hard as iron, doubted that it would survive. Time went by, the battery personnel changed. Every new arrival took the apple tree under his care together with the rest of the duties. It sank its roots deep into the ground, tenaciously held itself upright in the wind, threw out new shoots in the spring -- and finally blossomed. But the captain was no longer in the garrison. He is serving in another unit now and he has been promoted in rank. That day, when the apple tree blossomed for the first time, the new commander and first sergeant, the only ones who personally knew that captain, wrote him a letter. At the end of the letter they noted that the garrison for the grounds improvement of which he had done his bit, had grown and improved. And the podrazdeleniye, as he had ordered when he had left, was carrying out operations successfully, and it had become one of the leading ones in the chast'.

My companion, -- a colonel who had served a good 30 years in the Army, ended this short story of the commander and the apple tree with the following words: "This is the fate of a man in an officer's boots. He comes to a new and

sometimes rather desolate spot, puts things in order, teaches and instructs the men, sows good seeds. The podrazdeleniye is whipped into shape, and everything runs smoothly. But life goes on, particularly now when there is much new equipment and many new tasks. An officer is promoted, once again he is underway, leaving the fruits of his labor at his former post."

I was going to a small missile podrazdeleniye situated in the woods, commanded by Capt Shelud'ko. Tremendous pines howled alongside the road, bluish clouds floated across the sky as in the springtime, and a moist wind, permeated with the scent of pine needles, bustled about over the recently thawed ground. In the fortunes of Shelud'ko and in the lives of the men who were carrying out their military service in the forest garrison I saw many similarities with the tale related to me by the colonel. Day after day, in fair weather and foul, winter and summer, here in the small missile garrison training is being carried out intensely, and the men are doing everything in their power to maintain their weapons in a ready condition, in order to launch a missile toward the target accurately when it is necessary. The podrazdeleniye has already passed a combat test. One year ago on a holiday morning in May, an enemy plane appeared in the skies over the Urals, and the missile men carried out the order given by their country -- they downed the intruder. The simple, everyday instruction and training prepared these men for combat. At that time the names of those men who had trained them for this deed became known -- officers Voronov, Shelud'ko, Denisov and Bukin.

Military service brought to the missile garrison, united and joined into a strong combat family, these men whose appearance differed so greatly, and at the same time the fortunes of whom were so similar. They had something in common -- a love for their military profession, restless hearts and an active nature. The past year confirmed this. The officers were able to accomplish much in a short period of time. Capt Shelud'ko made his fondest dream come true -- he went to study in the academy. He was replaced by Capt Denisov as commander of the podrazdeleniye. The others were also not marking time. After fulfillment of their responsible task they moved further on, learned to carry out their assignments even better. Right now, during the days of preparation for the 22nd Party Congress, competition is expanding between the teams, otdeleniya and individual soldiers. The officers, under the leadership of the commander, are doing much in handling the equipment. They have become rated specialists. Having fulfilled this task, they have taken on another one -- they have resolved to

raise their qualification level one more degree.

Podrazdeleniye commander Capt Denisov has much on his mind. But nevertheless he has found time to study. In the evening, when his men were enjoying recreation, he was pouring over his books for the next seminar at the evening university of Marxism-Leninism. He had to go a long ways to the lectures, but this did not stop him. No matter what the weather, he would leave on his journey of dozens of kilometers. He knew deep down inside that he could not do without this knowledge. And he already was beginning to notice that he felt himself on a firmer foundation among his men, he became more necessary to them and directed them more boldly. Simultaneously the tireless officer was preparing for entrance examinations for the Academy.

The time came nearer. But a complication arose -- one of the officers was promoted to another garrison. This made Denisov happy as an instructor, and it placed new tasks before him. An officer grew up in the podrazdeleniye from a graduate of an officer candidate school. He knew his men well and developed his teams into excellent ones. When a Party organization was formed here, the captain placed him first on the candidates' list for Party leaders. At this busy time it was necessary to find an officer worthy of replacing the one who had left. It was not necessary to go far for such an officer. Many "newcomers" had already proven themselves in the podrazdeleniye. Ardent service, a high degree of consciousness of duty and responsibility open wide the doors for the development of each man. Another young officer took the baton from his senior comrade. This did not slow down the pulse of the podrazdeleniye. New forces sped it up even more. Youth stormed the heights of skill enthusiastically. In order to facilitate for them the mastery of everything new born in the podrazdeleniye, they formed a progressive methods school. The enthusiasts assemble every Wednesday evening. The ones who have been outstanding in their combat work tell of their experience. Recently Sgt Kornilov spoke to the men. He told his comrades how his team had learned to operate at night according to day standards. Now many teams are seeking to achieve the same level. Each podrazdeleniye has its own traditions and unique features, even the youngest ones. The missile men who participated last year in carrying out the combat assignment also have them. The most remarkable of these is a firm and exacting friendship, a genuinely heartfelt care and concern of each for the success of all. When new men come to this strong collective, they are literally seized by the militant, urgent tempo of combat training. Recently a young officer came. He was introduced to per-

sonnel and told of the accomplishment of the missile men. The young officer wanted to take his position as rapidly as possible in the glorious line unit, to contribute his labor to the common cause. Soon he proposed to form a brigade of specialist-Komsomol members to prepare visual aids. The commander approved his initiative. Thanks to the efforts of the brigade, it has become easier for young soldiers to master missileery and to attain the level achieved by the top missile men. The time is approaching when the podrazdeleniye will move on to new achievements.

The men are developing rapidly and confidently, and their capabilities are being revealed more and more fully. The consciousness of the fact that the efforts of each combine in the common struggle for a better fulfillment of one's duty in defending the most precious thing on earth -- their country, affords great joy. This is the feeling which infuses the officers of this podrazdeleniye, young ones and veterans. We conversed with Officer Bukin, who also participated in carrying out that combat assignment on 1 May 1960. How rich is the intellectual world of this officer and how varied are his interests. One year ago Bukin was a lieutenant, an aiming officer. Now he is a senior lieutenant and a Party leader. Bukin entered the radiotechnical faculty of the Institute. Study and work are enriching one another. Reinforcing theory with practice, he is taking his examinations ahead of time, long before the session. His subordinates feel how the officer is penetrating deeper and deeper into the secrets of the new and complex equipment. Positive changes have taken place in the lives of the officers of this as of all other podrazdeleniya. The labor of each of them has produced its result, as a grain produces a shoot, which grows and develops leaves. Upon my return from the missile podrazdeleniye, once again I recalled the apple tree planted by the captain and blooming thanks to thoughtful care. Under the leadership of the officers, strong and valiant fighting men are developing, and they are becoming stronger with each day. It is no wonder that when the time comes, men who are little known suddenly become heroes, and the entire Soviet nation is proud of them.

THE COMMANDER AND GCI CONTROL

[Following is the translation of an article by Col P. Panchenko in Krasnaya Zvezda, 10 May 1961, page 2.]

First two planes took off and later two more left the ground to carry out their mission. Capt Karminov was at the GCI panel for guiding the fighters to the target. When the situation in the air became complicated, he became agitated, began to issue contradictory commands and lost control of the situation. At this time I was next to the GCI control officer and I will say frankly that I was nervous: "I should be at the indicator instead of him". A commander's sense told me that Karminov was making errors. However, unfortunately I could not correct the situation -- at that time I did not have the necessary experience in guiding fighters to aerial targets. I remembered this some time afterwards, during tactical flight exercises. One after another the fighters were going out to make an intercept of an aerial "enemy". I made decisions, transmitted instructions to the GCI controller and he transmitted the commands to the fighter pilots. Everything went alright for a while. Suddenly one of the interceptors from our regiment appeared right next to the "enemy" plane. I had no doubt that the other side was well aware of this. An air battle was imminent. Who would win? The planes were identical. In this situation victory would go to the one which would forestall the other, seize the initiative and win time. When I began to give instructions to the controller, once again I suddenly felt the lack of control skills. In order to win time, which was of the utmost importance under the circumstances it would have been better to give commands to the pilot directly and not by means of the control officer, but I was not able to do this.

All of this is convincing proof that an Air Force commander must be well acquainted with the technique of guiding fighters to the target with the aid of the circular view indicator. In order to exert direct influence on the course of the battle at the necessary moment this is important. A commander has more experience on forming a judgment on the situation in the air than the GCI controller and has a better concept of the dynamics of maneuvering in the air, since he himself is a flier. Of course, I do not wish to minimize the role of the GCI controller. He is essential, and it is impossible to get along without him. We have many controllers who know their business to perfection and can find a way out of any difficult situation. But there are circum-

stances which make it necessary for the commander himself to direct a battle directly from the circular vision indicator. In addition, a commander who has mastered the technique of guidance can uncover mistakes on the part of the controller in time and correct them immediately. I shall cite the following example. In guiding Capt Proshkin to a target, the same Capt Karminov did not take into consideration the peculiar features of flying at high altitudes and was late with the command to turn. As a result, at the crucial moment the pilot was quite a distance from the aerial training target and lost the tactical advantage. I had reminded Capt Karminov of this twice. He is an experienced GCI controller. The reason for his errors lies in the fact that he had spent a long time guiding fighters at low and medium altitudes where flight conditions are considerably different from those under which Capt Proshkin was flying. The technique of flying at various altitudes is familiar only to the commander, who himself is a flier. If he had been at the circular vision indicator, such an error would not have been committed. The retort could come that many GCI controllers had been pilots themselves in the past. This is true. But one should not forget that some of them had flown on piston planes, where speed and altitude were quite different. It would be stupid to transfer an old measure to jet flying. And yet this sometimes takes place. Although the GCI controller is present during the preliminary preparations and the post-flight discussions, he cannot know as well as the commander the individual characteristics of each pilot. This is why sometimes a pilot and controller do not make any real contact between each other and do not understand each other. Not long ago a GCI controller lodged complaints against a pilot, Maj Lifanov. He claimed that it was difficult to guide him to a target. The pilot made a justified complaint that the controller did not give him commands in time. Who is right and who is in the wrong? In order to deal with this objectively, the commander himself should sit at the view indicator, and then everything would be clear. This I did (by then I had already succeeded in mastering guidance control technique). I sat at the indicator and saw that the pilot was committing rather major errors. He went through each maneuver too sluggishly and was losing precious time inefficiently. Double benefit was gained from this check: the GCI controller became convinced of his correctness, and I was able to expose defects on the part of the pilot which would have been difficult to do under other conditions. I flew with him a couple of times and demonstrated how he should maneuver. Now Lifanov conducts himself much more energetically in aerial training battles than formerly.

A commander flies with each pilot, watches his development and sees his shortcomings. He takes into consideration the individual characteristics of the officers in handing out flight assignments or aerial combat missions. The GCI controller cannot know all this. Since he does not know this, he naturally does not take it into consideration in combat dynamics. This is what happens in practice. Capt Vasin had already made the turn to the target cautiously several times. Previous controllers, being aware of this peculiarity, had given him suitable

commands. Everything went well. But now Capt Shakhmatenko was operating the indicator. He did not know Vasin's "handwriting", and approached him with the general yardstick. As a result the attack on the aerial training target did not take place from the specified assault position. We must mention once more that the skills of a GCI controller are as necessary to an Air Force commander as the air itself. I was able to master them. This was an irreplaceable aid in my work. Often I must take over control myself and make direct contact with the pilot who is conducting the aerial combat.

I shall relate briefly how I mastered the knowledge and skills of a GCI controller. Maybe my colleagues would be interested in knowing this. At first it was necessary to make a thorough study of ground radar technique. Then I became acquainted with the system of operating the circular vision indicator. All of this is the theoretical part of it. The practical work consisted in training. At first I trained at making intercepts of aerial targets from the plane-table with obligatory victory for the interceptor, (without leaving the ground). I worked out aircraft guidance on parallel intercept courses with consideration of the turn radius, determined the point where the turn should begin, the moment when the turn command should be given, etc. Only after this did I begin to guide the interceptor directly from the circular view indicator of the radar station. Experienced GCI controllers aided me at all stages of training. I carried out the first five control assignments under their direction. I should add that my first independent control assignments were carried out under simple weather conditions. Experienced pilots were doing the flying. The intercepts were first gone through carefully during pre-flight briefing, and variants were provided for. The question might arise as to why it is more expedient for the commander, during his first GCI operations, to work with experienced pilots instead of young ones? It is not difficult to answer this. In the first place, a pilot who has had sufficient experience in making intercepts of aerial targets will aid in noting more mistakes in the ground control, and this means that they will be eliminated more rapidly at the early stage of training. In the second place, if the commander commits any errors in the ground control, an experienced pilot can compensate for them quite easily. This circumstance plays a decisive role in observing flight safety. After I completed the course of practical ground control, I was called upon to teach my assistants and squadron commanders. All of them went after it with enthusiasm. We think that every Air Force commander, particularly in air defense fighter units, should master to perfection the skills and knowledge of the GCI controller. This can only improve our general level of combat readiness. I should like other Air Force commanders to express their opinions on this subject.

SENTRIES OF THE SKY

Following is the translation of an article by Col N. Parshin in Krasnaya Zvezda, 11 May 1961, page 1.

Due to the spring muds, we were forced to abandon two trucks on the way to the dispersement area of the radar station and complete the last lap of the trip on a powerful semi tractor. This is the distant, independent garrison of the "sentries of the sky". Cozy dugouts, cottages, caponiers. We had not yet had time to acquaint ourselves with the layout of the units and the personnel when the alarm siren sounded. Capt Kurenkov dashed to his post. A diesel engine began to roar. A firm and confident report is transferred to the command point on the beginning of station operations. Two minutes earlier than prescribed standards the crew had completed preparations for carrying out their combat assignments. These savings are an important factor in combat readiness, an indicator of true mastery on the part of all specialists at the station.

The situation in the air in the station's pickup zone was rather complicated. On the circular view indicator screen more and more blips appeared. The impulses on the screen shifted around continually, sometimes becoming brighter and sometimes fading. These are all aerial targets. But right now they are not important to the radar crew. The concrete assignment came to accompany the targets only in a specific sector. Like a huge stop watch hand, the greenish scanner stripe was crawling around the screen of the circular view indicator. Rated operator Bazhan carefully observed the grids and soon reported that the target had been sighted. Immediately recognition signals follow of "ours" and "theirs". The altitude azimuth and distance of the target are determined. The senior has faithful aids, also first-class specialists: Pfc Ryabchun, following the distance indicator, Pfc Gatavetskias -- on the altimeter indicator, Pfc Tochenyy -- on the telephone. Each of them confidently carries out his duties. Capt Kurenkov, at the control panel, checks on the operators. The target is gaining altitude. Rocking the antenna, Kurenkov attempts to create optimum conditions for following it, and the coordinates of the target are transmitted with unchanging accuracy to the command point. Everything is going fine. The invisible radar beam tenaciously holds on to the target, not letting go for one second. Now the all-seeing eye of the radar intercepts another, group target. Its coordinates are immediately transmitted to the command point. The escort continues without breakdown right up to the

landing. For about three hours straight the radar station crew carried out a combat assignment, supplying the command point with all necessary data. "Excellent, excellent", the report came from the command point. In a brief article it is difficult to tell how the radar men improved upon their successes from day to day and fought for the honorary right to be called an excellent podrazdeleniye. Not too long ago cases occurred whereby the power plant broke down at the most crucial moment or the target "was lost" due to inexperience. There was also a problem of discipline. They started with this. With the joint efforts of the station commander, Capt Kostel'tsev, all Communists and Komsomol members in the podrazdeleniye, the strictest order was maintained. There have been no violations of discipline for a long time here. A new approach was used here in the training of operators. Formerly they became first-class specialists only by the third year of service. Now they have resolved to prepare first-class operators in the second and even in the first year of service. Excellent technical knowledge on the part of the officers themselves, a broad development of socialist competition and comradely mutual aid -- these are the reserves. When they are used as they should be, fine results have been attained. Last year three operators raised their qualifications by three grades. This acted as a great impetus to the personnel. Now all men in the podrazdeleniye are classed specialists, and 72% of these are first-class.

It is fine that the officers are setting a worthy example in technical growth. All of them are now first-class specialists. Even the youngest of them -- Tech Lt Zaykov, who came to the podrazdeleniye from school six months back -- has raised his classed qualifications by two grades. They do not forget in the podrazdeleniye that the station specialists -- operators, electromechanics, radio operators -- are links in one unbreakable chain. All specialists at the station are capable of replacing one another in case of emergency. Once an order came to the station -- to relocate themselves immediately for operations in a new area. Immediately the great skill of all the men was shown. The dismantling of the station, the march and finally setting up the station and the beginning of combat operations were carried out in a very short period of time, for which all personnel were commended by the commander of the district. The task is sometimes not an easy one for the radar men. They have much to worry about and the environment is a severe one -- forest and swamp all around. But this has no effect on the quality of operations. The men carry out their sacred duty to their country honorably. The radar operator keeps vigilant watch over the sky as always. The "sentries of the skies" are on the job. These are highly skilled and hard working men.

A SECOND IS A LONG TIME

[Following is the translation of an article by Col Gen D. Zherebin in Krasnaya Zvezda, 16 May 1961, page 2.]

Tactical exercises were being held. Group and single aerial targets appeared in the zone of the installation being defended. The crew of the radar station gave the characteristics and coordinates of the targets with great accuracy. The fighters were ready to go into "battle" at any moment. Nevertheless, the "enemy" was successful in penetrating through to the installation. This happened because the information on the air situation came through with a delay. Upon carefully checking the reasons for the delay in notification it was ascertained that the time factor in the crew headed by Officer Gudukin had not yet become one of the most important indices of combat training and coordination. The men were working in the same old way, without seeing the new and without taking into consideration increased potential in the means of air attack. This example shows that under modern conditions it is impossible to handle troops as was done during the epoch of piston aviation. The speeds of modern bombers, let alone missiles, are so great that success in carrying out combat assignments by the air defense men is unthinkable without a high degree of organizations of battle control. Data on aerial targets usually become "out of date" extremely rapidly. This means that any delays in the determination, transmission and development of data has a negative influence on the accuracy of reproduction of the situation in the air and, consequently, on the outcome of the action. In organizing troop control in training and instructing men, we should not forget the factor of surprise. "We should expect," said Marshal of the Soviet Union Malinovskiy in his speech at the 4th Session of the USSR Supreme Soviet, "that the most probable method of starting a war by the imperialists against the Soviet Union, if they risk doing this, will be a surprise attack with the large-scale use of nuclear weapons. Under these conditions the main task of our Armed Forces will consist in repelling the attack of the enemy and in dealing an instantaneous retaliatory and devastating blow."

It is a well known fact that great responsibility for the fulfillment of this task rests on the shoulders of air defense personnel. Air defense men have for this purpose first-class equipment and weapons. It is merely necessary that they make an all-out effort to master the art of using this equipment in combat. The most important conditions for constant combat of air defense podrazdeleniya and chasty are a high

degree of consciousness of personnel, firm military discipline, comprehensive training of soldiers, sergeants and particularly officers, coordination and close cooperation between all branches. In the air defense forces any specialist, be he an operator or radiotelegraph man, pilot or anti-aircraft gunner, truck driver or diesel mechanic, electrician, carries out responsible duties, and the outcome of the battle depends on the training of each of these men. Therefore, the efforts of our commanders, political workers, Party and Komsomol organizations should be directed toward educating in all servicemen a feeling of great personal responsibility for the defense of our aerial borders, for improving their skills. Embarking upon socialist competition for a worthy greeting to the 22nd Party Congress, our pilots, anti-aircraft gunners, and radar podrazdeleniya men have assumed great obligations, are steadfastly struggling for their fulfillment and, in particular, are successfully ascertaining potential for the further shortening of time required for combat readiness. Initiators in this important matter were the fliers of the 'K Chast', awarded the Challenge Red Banner of the Party City Committee and City Soviet. How do the fliers cut down on the tough schedules for preparing for combat? Primarily with a better mastery of equipment, increasing the rating of flight and technical personnel. Technical training and technical propaganda are handled well in the 'chast'. Every day the engineers aid the pilots in acquiring solid theoretical knowledge and practical skills. The majority of crew commanders have already passed the examinations for technicians for first or second class. Now they themselves can ready the plane for repeated takeoff, and this makes it possible to save additional minutes. Great work is being done here among junior Air Force specialists. Many mechanics have assumed the obligation to learn to carry out the duties of an aircraft specialist. Studying in technical study groups, they are increasing their knowledge. Experienced engineers and technicians read lectures in these study groups. Mechanics who have passed examinations are allowed to prepare planes for takeoff independently. Here are the first fruits of the increase in technical education and comradely mutual aid between Air Force specialists. In the maintenance groups headed by Engineer Captains Tarakanov and Parfilov the time required for readying equipment has been decreased 250%. Top-grade work has been fully maintained.

A fine example is shown by military pilots first class majors Pirovoy and Maksimov, as well as Capt German, fully mastering the handling of supersonic fighters. By means of systematic training they achieved rapid and clear-cut actions. All movements are strictly calculated and a definite order of operation has been worked out. On each operation (donning the parachute, fastening the straps, turning on the unit and instrument tumblers, etc.) they save seconds, and the takeoff time is shortened considerably. Capt Feriy achieved particularly great success. He cut his time of preparing for takeoff in half. Creative initiative in the struggle for saving time is manifested by our radar and communications men. The men under the command of Officer Bogushevich

initiated competition in the podrazdeleniya of increased classification, for locating aerial targets at a distance, considerably surpassing the standard performances of radar stations. This deed gave a boost to all radar men. Right now, in many podrazdeleniya, all the men have classed qualification, and more than 80% are operators first and second class. For example, the crew under the command of Sgt Antonov is made up completely of specialists first class. The high degree of skill makes it possible for these men to pick up targets 30-35% further away than the distance established by average statistical data of radar sets. However, it is important not only to pick up the target but to transmit data on it rapidly. An important part is played by the radiotelegraph operators and telegraph operators. In order to receive and transmit the same telegram, a radiotelegraph operator 1st class requires one and one half times less time than a specialist 3rd class. This is why the campaign to achieve 1st class qualification in the first year of service in our podrazdeleniya has become a mass one. A high general educational level of soldiers and sergeants, as well as persistence in studies, makes it possible for them to achieve the 1st class standards ahead of schedule, before one year of service is up. First class radio communications men such as Sr Sgt Shepetkov, Sgt Kubasov, Jr Sgt Semenov, telegraph operators Pfc Tarabanov and Novikas, have surpassed these standards by considerable margins. The campaign to save time naturally has nothing in common with haste and rash actions. Haste makes waste, as the old saying goes. In the military haste is generally intolerable. It is particularly harmful in training for handling military equipment. High rates of speed are useful only when they are combined with irreproachable accuracy, clarity and care. Unfortunately, some persons, trying to save time, forget quality and the observance of safety regulations and do not always take into consideration actual potential, the degree of training of certain soldiers, crews and podrazdeleniya. The harm of such an approach is obvious. In one of the crews it was planned to carry out work in setting shortened time limits for equipment handling. However, they did no preparatory work for assuring success. Therefore, as soon as the stopwatch was started, haste began. The men carried out certain operations carelessly and documentation was made up with errors. When something went wrong with the equipment, the crew went completely behind schedule and exceeded the time limit not only for itself but for all podrazdeleniya. Who needs this type of campaign for saving time?

Even more fatal is unjustified haste during spotting, following and intercept of the target. Some officers, in seeking operative effectiveness, transmit data on an aerial target without sufficient processing. Later they are forced to spend more time pinpointing it. Success in the campaign for increasing combat readiness, as experience has shown, is achieved by those commanders who decisively eliminate from training practice simplifications and indulgences, who skillfully find general applications for and incorporate in practice the most expedient methods of operating equipment. Those officers are correct who run competitions in gun and radar crews for cutting down the time

required for bringing the equipment into combat readiness. For example, in the chast' where Officer Gromov serves, such competitions are held regularly. This is producing results. The best crews, including the crew of Jr Sgt Kuzov, were able to cut standards in half, maintaining high quality in operations. In our chast' much is being done to raise the level of technical education of officers. Besides regular training sessions, approximated to actual combat conditions, lectures are read on new techniques and equipment. Many processes in the operations of pilots, anti-aircraft gunners, radar operators, communications men, personnel of command points, are of course standardized and regulated. This makes it possible to organize the training of personnel in a more practical manner. But we must say that some standards have already become obsolete and have ceased to stimulate the men to achieve new successes. They require revision. Even now, we believe, it is possible to raise to a great degree the demands placed upon classed operators, if we take into consideration that equipment is being improved continuously, and the general educational level of officers, sergeants and soldiers is increasing. Many of our operators, even young ones, without a great effort, double and sometimes triple standards for individual operations. Obsolete standards are slowing down a further increase in the skills acquired by the men. In adopting new standards, we should take into consideration the improvement of equipment and the experience of our best men and leading podrazdeleniya. Commanders should also regularly time the fulfillment of operations and seek out possibilities for further decreases in time spent, savings in seconds. In our opinion it is also essential to revise the system of establishing standards, in order to make it more flexible. We believe that it would be effective periodically, taking into consideration the achieved level of combat training as well as the operational characteristics of a specific podrazdeleniye or chast', to review them and change them if necessary. In this respect greater rights should be granted to commanders. In the military press the question has been already brought up as to whether certain categories of air defense force specialists should be assigned increased standards and be awarded the title of master. It is abnormal that certain pilots, officers-radar operators and communications men, having been specialists 1st class for several years, have no future in further improving their knowledge and skills. Many soldiers and sergeants, obtaining during the first year of service the qualification of operator or radiotelegraphist 1st class, mark time throughout the duration of their service. The introduction of new standards and titles will aid in increasing the combat readiness of air defense forces and will insure success in the campaign to save time during combat operations. Great enthusiasm is now being displayed in our chast' and podrazdeleniya.

Socialist competition for a worthy greeting to the 22nd Party Congress is picking up speed. Boundlessly devoted to the Party and to the people, our men are ready at all times to carry out a combat assignment in the defense of our country's aerial boundaries.

INCREASE THE ROLE OF ENGINEERS IN MILITARY EDUCATION

[Following is the translation of an article by Mar SU S. S. Biryuzov in Krasnaya Zvezda, 21 May 1961, page 2.]

The Party and Soviet government, tirelessly striving for a high level of combat readiness and fighting capacity of our Armed Forces, are constantly furnishing them with the most modern equipment and weapons. The post-war period is particularly characteristic with its broad incorporation of new weapons in the Armed Forces and the allied and basic changes in the relationships between the numbers of command and engineering-technical cadres. For example, in the PVO forces, the number of engineers and technicians now exceeds the number of officers having completed line schools and academy command faculties. This reflects not simply quantitative relationships in our officer personnel but also speaks of the tremendous growth of the influence of engineers and technicians on the operations and training of the forces. Naturally, the increased role of specialists in the Armed Forces could not but cause increased interest on the part of the Army community to the question of their participation in the training and education of servicemen. In view of this one cannot but approve the initiative of Engr Col Diskiy, who began in Krasnaya Zvezda a discussion of the round of responsibilities of engineering-technical cadres under modern conditions.

What kind of an answer should be given to the questions raised by the participants of the discussion taking place on the pages of Krasnaya Zvezda? First of all we should pinpoint the engineers and technicians under discussion. It is hardly worthwhile to discuss whether or not officers with engineering training who are commanders of chasti and podrazdeleniya should engage in educating the men under their command. The scope of duties of these officers is determined by the Military Regulations, placing on commanders and military leaders full responsibility for the education of the personnel. We should merely note that the tendency to combine the functions of commander and engineer will be manifested in the future in view of the greater and greater incorporation of new equipment, and the automation in troop command. The appointment of military engineers to command posts usually justifies itself. They successfully cope with responsible obligations in training and educating personnel, in maintaining a high level of combat readiness in chasti and podrazdeleniya. A model of such a one-man-commander, a person of strong will and excellent line training and genuine teaching skills, is Engr Col Yefimov. A specialist of the highest qualification

in the area of the most modern combat equipment, at the same time he has proved himself to be an excellent teacher to the men under his command. The chast' in which he serves is one of the top ones in the district and has been awarded the Challenge Red Banner. Successful fulfillment of the varied responsibilities of commander-teachers does not at all hinder engineers from remaining specialists in the field of technology. This was brought out vividly by one of the participants in the discussion, Engr Lt Yepifanov: "I personally have direct command over soldiers and sergeants. I enjoy conducting their education, and in particular I head a political study group, direct parade drill and participate in civic life. I do not at all believe that this takes me away from purely engineering duties. Without working with people it is impossible to assure equipment maintenance." The discussion concerned chiefly specialists occupying purely "purely" technical posts, those who had few soldiers and sergeants under their direct command. This is a rather large percentage of our officer personnel. It is no secret that among some of our military engineers, and particularly young ones, there is often an attempt to receive posts where duties are concentrated on handling military equipment. Occupying these posts, they consider themselves "freed" from any and all participation in educating personnel. This view of the role of the military engineer is, beyond all doubt, incorrect and contradicts the spirit of our military regulations. Can a Soviet officer, being a military specialist by education, really remove himself from the instruction and education of servicemen? For example, let us take a radar station technician. If such an officer does not engage in the education of the soldiers in the crew in the spirit of a high degree of discipline, execution, a thoughtful attitude toward the operation and care of the equipment, he cannot achieve success in his work. But this is not the only thing. Tomorrow the technician may be promoted to the post of head of the entire station and in the future -- commander of a podrazdeleniye. It is natural that for this an ability to work with people is required, and definite teaching and commander skills are essential. These can be acquired only in actual practice, in daily and tireless activities in the education of soldiers and sergeants. In peacetime conditions, the promotion of an officer takes into consideration the length of service in a specific post. In wartime a situation might arise whereby an engineer or technician may be required, without any "test period" to replace a fallen commander and take upon himself the command of the podrazdeleniye. It is obvious that for this the officer must be trained throughout his entire service by participation in educating and training personnel. Another question arises: what specifically should reflect the participation of engineers and technicians in the education of military personnel? First of all -- in active participation in Party-political and mass-educational work. The engineer and technician are called upon to be active propagandists of political, military and scientific knowledge. A high degree of training makes it possible for officer-specialists to be among the ranks of the most highly skilled teachers of our Soviet fighting men.

Some participants in the discussion of the article expressed the wish that engineering-technical personnel be encouraged to handle exercises in parade drill, in exercising control over the observance by military personnel of the order of the day, etc. It would be quite good, for example, if an engineer will conduct parade drill exercises in one of the podrazdeleniya. This, beyond any doubt, will be useful both to him and the personnel. But should this be made into a system? In such a case one asks oneself, what will the platoon, company and battery commanders do who occupy staff posts in chasti and podrazdeleniya? Is it expedient to assign to specialists with higher technical education the fulfillment of such functions as are part of the scope of direct duties of sergeant personnel? We believe that to operate in this manner would mean to allow an over-simplified approach to the solution of the problem of increasing the role of engineers in the training and education of military personnel. We must make an all-out effort to develop such forms of personnel education as would organically go into, as an inalienable part, the daily professional activities of engineers and technicians. Naturally these forms will differ according to branch of service, and according to the various personnel service conditions; however, in all cases this work should be subordinate to the same goal -- the education of Soviet fighting men in the spirit of life-giving Soviet patriotism, loyalty to oath and regulations, development of high moral-combat qualities in military personnel. It is obvious that education is an extremely complex art, the mastery of which must be no less persistent than the skills of handling the most modern equipment. Naturally those participants in the discussion are correct who consider that we can not limit ourselves to appeals for the inclusion of engineer-technical cadres in educational work, and recommend to hold lectures and talks on problems of military pedagogy and psychology in the chasti, to organize seminars on Party-political work for engineers and technicians. Invaluable aid will be lent by well organized propaganda of the experience of leading commanders-educators, skilled methodologists. Rich experience in this has already been gathered in the forces, many commanders and political organs have verified in practice the most efficacious forms of aiding officer-specialists in mastering the methods of educating military personnel. This invaluable experience should not go to waste.

Speaking of the tasks of engineering-technical personnel, we should note first of all the necessity of educating the men in the process of carrying out various types of jobs -- regulatory and repair, during the course of inspections, verifications, tuning and regulating of combat equipment. As a rule, in all of these cases military personnel work under the direct guidance of engineers and technicians. It is here that it is required that specialists do not limit themselves to purely technical control over the fulfillment of operations in a purely technical field, but they should combine this with functions of an educational nature. Engineers are obligated not only to inculcate in military personnel the skills of a high technical education, expand their mental outlook, enrich them with experience, but also to inculcate

in personnel a feeling of love toward their weapons, faith in their flawlessness, reliability and power. A love for the equipment and faith in its reliability play at the present time a tremendous role in training servicemen to carry out combat operations under the conditions of using modern weapons. It is no exaggeration to say that we should achieve a situation whereby each soldier, sergeant and officer would be equally unshaken in his confidence in the remarkable qualities of Soviet military equipment, as the first astronaut, Hero of the Soviet Union Maj Gagarin, was convinced of the absolute reliability of the entire complex system of the space ship "Vostok". If all specialists constantly engage in educating military personnel, the very division of officer activities between "line" and "technical" will disappear. This preserved "classification" has been handed down to us from those dark ages when engineers in the Armed Forces could be counted on one's fingers. At that time all types of workshops were situated in the rear of the active army, and they were mentioned only when the need arose to repair a weapon which had gone out of commission. Under these conditions the opinion formed of engineers and technicians as "workers in the rear", who lacked that front-line polish, the ability to orient oneself rapidly in a battle situation, as well as operativeness and a high degree of execution in carrying out orders and instructions from senior officers. It is obvious that these ideas of the nature of the work of engineers and technicians has become completely obsolete. Each specialist is a combat officer in the full meaning of the word. In modern combat engineers and technicians must carry out their duties under the same conditions as officers commanding *podrazdeleniya*. Considering the high degree of discipline, execution, and front-line polish necessary to us, military men, not for parades but for the clear-cut execution of duties in battle, it is clear that these qualities are essential now also for each engineer and technician, as well as the specialists under their command.

We must embark on an all-out campaign against all elements of slackness among junior technical specialists, eliminate jargon which is cluttering up our military terminology, carefully educate all men connected with the operation of combat equipment into conscientious, disciplined and well-trained defenders of the Soviet land. An engineer cannot limit his work with people within any framework. He must maintain as close relations as possible with the men under his command, not only when they are servicing equipment under his guidance or learning theoretical disciplines in class, but in the barracks, in the Lenin room, in the club, on the parade ground and in the sports center -- everywhere where combat training and military service are going on. In letters received by the editors as replies to the article "The Engineer and Military Education", much attention is devoted to the necessity of the further improvement of training officer-specialist cadres, improving the work of our military educational institutions. We cannot but recognize as justified the critical remarks and value of many suggestions by our readers. The rapid development of military science and combat equipment requires the constant improvement in training of officer cadres

in general and engineers in particular. This is a complex matter, but there can be no argument about the fact that the graduates of higher engineering schools and academies should receive greater military-mil-pedagogical training, a deeper knowledge of the bases of Party-political work. These parts of their education should find worthy reflection in the tour of duty plans for students and officer candidates in the units. Under modern conditions, without the participation of engineer-technical cadres, the resolution of even one major task in the Armed Forces is unthinkable. A consciousness of their tremendous role and responsibility for the success of chastí and podrazdeleniya should engender in each of our officer-specialists indefatigable energy and cause them to labor wholeheartedly for a further increase in the combat readiness of the chastí and podrazdeleniya, a strengthening of the defensive capacity of our Soviet Land.

TACTICAL MATURITY OF THE RADAR OFFICER

Following is the translation of an article in Krasnaya Zvezda, unsigned, 24 May 1961, page 1.

Drill was being conducted in the PVO podrazdeleniya. The senior officer carefully observed the situation in the air and took the necessary measures in time to prevent the "enemy" from penetrating freely to the installations being defended. It seemed that the activity of the attackers began to slow down. Bombers entered less and less often into the radar detection zone. A report came on a new target, the movement of which no-one had fixed up to that time. The commander undertook steps to verify the correctness of the data received. They were confirmed. A clever tactical maneuver on the part of the aerial "enemy" was exposed and paralyzed by the actions of the PVO. Great credit belongs to the entire personnel of the radar podrazdeleniye which detected the aerial target in time, and primarily to the company commander, who was able to foresee the development of events and determine the probable direction of attack of the "enemy" air force. His prediction, based on profound knowledge and rich experience, made it possible to distribute correctly the strength and weapons of the podrazdeleniye, to ensure a successful fulfillment of the training-combat task. What should be understood by tactical maturity of a PVO radar officer? This means the ability to evaluate rapidly and accurately the situation in the air, to make efficient use of means at his disposal for the optimum resolution of the combat assignment. It is important for each radar officer to fully possess such remarkable qualities as initiative, decisiveness, in order for him to be able to find a way out of any difficult situation. There are many such officers in the PVO units. For example, they include Capt Romanyuk -- commander of a radar company. A profound knowledge of the combat potential of each of the stations, the degree of preparedness of the crews making up the podrazdeleniye, makes it possible for him to confidently direct the men under his command during the operations, to be constantly aware of all changes in the situation in the air. It is no coincidence that this company never loses targets or allows them to slip by. Capt Romanyuk has been able to coordinate all elements in the company in an excellent manner, to achieve from the men under his command rapid and accurate execution of each order. Situated at the control point, the officer can execute instantaneously any decision made by him and immediately inform the command point on the situation in the air.

Unfortunately there are other types of examples. Lt Shirokov, for example, showed himself to be an officer who has insufficient training in his specialty. Naturally his tactical outlook does not meet those high requirements now placed upon PVO officers. Lt Shirokov did not display sufficient skill in training the men under his command. No wonder they often fall short of success when they are called upon to carry out complicated training-combat assignments. Under modern conditions a radar company is a primary tactical unit of the PVO radio-technical forces, which is called upon to carry out extremely responsible assignments. The commander of a podrazdeleniye has sufficient potential to carry out during the course of battle distant air reconnaissance, to supply accurate data to the fighter control points, to supply the higher command point with timely and essential data. But these potentials can be realized only in a case whereby the company is commanded by an officer with initiative, capable of rapidly coming to a bold and well-founded decision. During combat he cannot count on advice and aid from senior officers. Modern combat against an aerial enemy develops so rapidly that seconds are precious in the arrival at and execution of a decision by a commander. He is required in an extremely short period of time to flawlessly evaluate the situation and give the men under his command the only logical orders. Only an officer who has excellent specialized training possesses these capabilities. Genuine tactical maturity is also essential in order to compare and analyze correctly all data on the situation in the air available at any given moment at the control point. Only under these conditions can the commander confidently orient himself in the sudden and unexpected developments during combat, when the enemy uses anti-radar devices and resorts to evasive maneuvers. Naturally these qualities are not inborn in an officer. Independence of tactical thought in an officer should be developed systematically, in the course of all classes and training exercises. Placing tasks before himself and the men under his command, which require creative solutions, full mobilization of knowledge and skills, the commander acquires experience and confidence necessary for guiding the podrazdeleniye in all combat situations, even the most complex. Formalism and stereotyping, which still occur sometimes in the organization of combat training, have an extremely fatal effect on the improvement of special training of radar officers. Training in the solution of the same old problems, indulgence toward unjustified simplification, lead to a situation whereby people are lulled by a feeling of false assurance. Usually an end comes to this complacency and self-satisfaction due to supposed success during the first serious test. But as a rule this lesson is an expensive one. Much time is wasted. Senior officers are much to blame for this. In a situation of a high degree of exactingness and high principles prevalent in the chest, these errors must not crop up in the podrazdeleniya. This situation must be created during all lessons and training exercises, without exception.

A rather common mistake is the one whereby insufficient attention is devoted to station leader and technical personnel in the organiz-

ation of officer tactical training. Their ability to correctly think in a tactical manner, and to act with initiative under combat conditions is extremely important. In addition, one should not forget that podrazdeleniya commanders develop from this category of officers. Their tactical horizons should be expanded in time. At present the tactics of radar forces have received sufficient development and are formulated in directive documents. They are the basis for the specialized training of radar officers. We should make sure that the instructions contained in these documents are studied thoroughly and incorporated unswervingly. This is one of the most important conditions for successful combat operations on the part of each of our radar podrazdeleniya.

MASTERS OF SILVER ARROWS

Following is the translation of an article by Lt Col S. Kovalev in Krasnaya Zvezda, 6 June 1961, pages 2-3.7

They say that man is known by his deeds and deeds are done by man. This aphorism is applicable not only to individuals but to entire collectives. We recalled this involuntarily when we visited the Air Force fighter squadron commanded by Communist Lt Col Giris. Here every pilot is a master of his trade, knows how to participate in aerial battles actively and aggressively, flawlessly, to destroy the aerial targets on the first attack. There is another and no less convincing proof of the high level of combat readiness of the podrazdeleniye: the squadron has been operating without any flight accidents for 17 years. This one fact acts as a beacon and encourages the men of other podrazdeleniya, and urges them forward to new heights of combat skill.

The pilots were in class. They were preparing for night flights. Accompanied by political worker Maj Karpenko, we went into the office where the podrazdeleniya commanders specified their plan charts. "Here is the squadron commander," Karpenko said, nodding to the far corner. There, bent over a table, sat an officer in a flight jacket. This was Lt Col Giris. Upon hearing his name, he turned around. Light hazel eyes flashed on a weather-beaten and powerful face. Having learned what we were interested in, he asked: "Why do you have to write about us? We're doing the same as everyone else, nothing outstanding..." He spoke in a simple fashion, without putting on airs. Later in staff headquarters we met the senior officer. Formerly the officer was in command of a regiment and served in this Air Force garrison. He knows all the pilots backwards and forwards. When the conversation turned to the squadron commanded by Giris, the colonel became noticeably animated. "Giris does not like eloquence," he smiled. "As for work -- judge for yourselves. Where is the best discipline, the best interceptors and the most athletes? In Giris's squadron. He does not do things aimlessly. He knows his men. He knows how to explain and demonstrate during flight. He is intelligibly imparting to his pilots that which he himself has achieved..."

This occurred several years ago. The squadron was mastering a new type of fighter. It was quite different from its predecessor. Giris was one of the first in the chest' to take off in one of these supersonic fighters. The firm confidence of the commander of the combat

potential of the new equipment lent inspiration to the men in his command. But it was not equally easy for all. They had never taken them up in the air. On takeoff and landing some of the men committed errors. The first takeoffs of Capt Kravchenko were quite difficult. He would complete a flight and taxi up to the parking area and the technician would look at the plane from a distance and wave his arms in exasperation: "He has worn the tires bare again"... The landing speed was rather high for this plane. This pilot was not used to it. He brakes with full force. Smoke rises from under the wheels. The squadron commander had many talks with this officer. But the cause for the error remained unclarified. "Kravshenko is left-handed," Giris suddenly recalled. "Maybe this is why it happens." The squadron commander decided to verify his supposition. He called the pilot, extended his hand and said: "Grip my hand with the same pressure you use to squeeze the brakes. Fine. Now try it with the left. Oh, the left one is more "Knowledgeable"!" Giris decided. "Now watch how I do it," and he squeezed the pilot's hand. "Do you get the difference?" Kravchenko nodded his head in assent. "You've got to train. We'll do it together." The commander helped the pilot to eliminate his mistake.

As early as the first flight the flight school instructor and officer candidate: "Maintain your angle! Glide to the equalization point..." But it is not so easy for a novice to find this imaginary point. But it must be found! Otherwise the landing calculations will be off. Lt Col Giris is an experienced commander. But he too was compelled to work hard before he learned to determine this equalization point. No, not in flight -- he has acquired an eye for it there, but in life, in the character of a man. In everyday matters, both large and small jobs, which are prosaically called "education work", the labor of a commander is not always noticeable; however, his beneficent influence, just like moisture for young plants, is essential in forming a fighting man, in developing his high moral-combat qualities. There are as many personalities in the squadron as there are men. A special approach is required for each one of them. For example, take Sr Lt Shupletsov. He is a capable officer, but a man with a temper. The commander was forced to have dealings with him. At a pre-flight briefing session, the more experienced pilots were asked one or two questions. Shupletsov was asked five questions. It seemed that he was harping on each small, insignificant divergence from flight rules. Once the senior lieutenant started the engine without checking to see whether the blocks were under the wheels. Giris saw this, approached the plane and ordered the engine to be switched off. He asked: "Why don't you observe safety rules?" "I had the brakes on ..." the pilot attempted to justify his actions. "What kind of instructions did I give? Why didn't you carry them out?" The same day Giris requested Flight Commander Andreyev to discuss this case in his collective. A business-like and useful conversation took place. Shupletsov obviously felt badly when he heard reproaches from his comrades. And can one help but feel pangs of conscience when one realizes that people sincerely desire

to help! Had it never occurred to Shupletsov how much trouble he was causing the squadron commander?

The first attempted intercepts... the sky was cloudy. There was nothing for the eye to get a fix on. Neither the target nor ground fixes -- nothing is visible. Just a tiny blip on the screen of the plane's radar set. Even the commands of the GCI controller cannot be heard in the earphones: they have already done everything they could on the ground to guide the interceptor to the target. Now everything rests on the pilot, and he is going slow. It seems to him that the "fledgling's wings" are growing a little fast!... "Everything o.k.! Approach speed o.k.," the radio announces. This is the voice of Lt Col Giris. During a training flight -- more than one! -- he showed Shupletsov how the attack maneuver should be negotiated. Now he is attentively observing the actions of the pilot and encouraging him. And the intercept mission? Naturally the squadron commander could have assigned the night mission to a more experienced, first class pilot. But he took Shupletsov along. Giris did not say a word about the fact that he was placing much confidence in him and assuming certain responsibility. He made the usual comment, more like fatherly advice: "Be extremely attentive.." and that was all.

The intercept was made without a hitch. The fighters were returning home. Suddenly the instructions came over the radio: "Head for the auxiliary airfield." It was necessary to change course. They touched down and taxied off the strip. The technicians and Air Force specialists who were at the field at that time had not yet serviced this type of aircraft. "Well, Shupletsov, shall we give it a try?" "Naturally, Commander, sir!" Without hesitating, the pilots went to work. They properly made the pre-takeoff inspection of the plane and fuelled it. They only had trouble with the repacking of the brake chutes. But they coped with it successfully. "It would not be a bad idea to have special classes in the squadron," Shupletsov suggested. "You mean on repacking chutes? That's right. We'll do it, we'll do it for sure."

Later, when they had touched down at their own field, Giris did not await supplementary instructions but requested the chast' commander to assign an officer-specialist. They arranged for the classes... Shupletsov smoothed off the rough edges and became a respected man in the collective. He is flying the first class program. Now nobody says anything derogatory about him.

When the pilots were in the process of mastering new flight equipment, errors in piloting were usually explained by a lack of experience. With an increase in combat skills it seemed that the errors should not be repeated. However, in practice things were different. It was frustrating that errors were often committed by trained officers. Once Pilot 1st Class Kudulis took off to make an aerial intercept. A few minutes after takeoff the red light flashed on on the instrument panel in the cockpit. "What's the matter?" The officer wondered. "Can it be that I am almost out of fuel?..." Kudulis reported the situation over the radio and returned to the field. It was ascertained that the technician had failed to fill the tank with fuel due to negligence.

Another time Sr Lt Ivanov "distinguished" himself. The officer had been well trained and had the rank of pilot 1st class. Nevertheless, he forgot to lower his landing gear upon his landing approach. It was necessary to send him around once more. Giris understood that this situation could not continue, that something definite had to be done to handle the situation. Flight law is law, and nobody can violate it. Communists Kudulis and Ivanov were forced to answer for their mistakes at the squadron Party meeting. A direct and impartial conversation served as a stern lesson not only to these pilots but to others. In his experience as a commander, Giris became convinced of the importance of eliminating the slightest violations of flight discipline in time. This is the main line, this "orientation marker number one", which distinguishes the entire professional activities of a top officer. In instructing the men under his command he does not attempt to replace the instructors, but skillfully directs their work and demands a high degree of exactingness. The flight commanders are not formally but actually the direct teachers of the pilots. Once Officer Barakin overflew the mark in making a landing. Flight commander Capt Vybornov was a witness to this landing. "I'm giving a rating of two for the crew", he said to the pilot. "I'm going to have to take a few flights together with you." It was embarrassing for the first class pilot to get into the cockpit of a trainer like a novice, but what could he do about it! He had learned something wrong and it was necessary to learn it right.

The combat skills of the fliers in the squadron increased from day to day. But the generally high results could not shield poor showings from the eyes of the commander. Not all pilots were yet able to attack the aerial target with a rapid thrust and with positive results. Sr Lt Zhilin, returning once from a flight, reported: "I could not attack the target. He put on a burst of speed..." The mission was not carried out. If this had happened in actual combat, the enemy would have gotten away scot-free. The problem of increasing combat readiness was discussed by the squadron Party organization. The Communists agitated and aroused the creative energy of the men. In the podrazdeleniye an active search was begun for new tactical maneuvers, the best methods were gathered grain by grain, drop by drop, and put into practice. The best interceptor pilots spoke before the other pilots several times. Capt Kravchenko, who is justifiably called a master of irresistible attack, gave much useful advice to his colleagues. Officer Communist Katyashkin developed and formed a good theoretical foundation for a new and more effective method for guiding a fighter to a target in the stratosphere. Good results were achieved by comradely cooperation and extensive propaganda of the experience of the best pilots. The combat training of all pilots improved and made noticeable progress. Now not just a few but all without exception had learned to finish off the target on the first run. However, mastery does not tolerate stagnation. That which was good yesterday is not always up to the mark today. The pilots in the squadron understand this and are continuing to seek out unused reserves for increasing combat readiness. It would seem that

everybody knew how to put on their high altitude flying gear. But they appealed to the technicians for aid, and it turned out that precious seconds could be saved in this area and the stipulated amount of time could be cut in half.

Let us take pre-flight briefings. They were conducted, as in other podrazdeleniya according to a definite plan: the pilots studied the assignments independently, and the commanders subsequently checked them. Is it possible to find any time to expand theoretical horizons? Of course it is possible! The idea was put forth by and inspector-pilot, and it was subsequently discussed at the squadron Party meeting. It was decided that each officer should develop a specific subject on high-speed aerodynamics. The pilot would prepare his topic ahead of time, study the recommended reading material, draw up a summary and then give a report to his comrades. These exercises are now held regularly on the days of pre-flight briefings.

The flight of supersonic fighters was following course. Lt Col Giris was leading the group. They were flying above a cloud cover at a high altitude. The formation was held flawlessly. According to the time schedule, they would soon arrive at the airfield. Suddenly supporting aircraft Capt Vostrikov inquired over the radio: "Why such high speed?" "Speed as planned," the leader answered. "Give instrument readings." The pilot complied. The commander realized that the navigational-piloting equipment was out of order on Vostrikov's plane. Taking stock of the situation, Giris ordered Capt Vybornov to take the supporting aircraft down, reminding him at the same time to penetrate the clouds through the "window". The two fighters began their descent in close formation. Cutting through the clouds, Vostrikov held to the leader's wing, and it lent him firm support, just like the hand of a friend.

The pilots of this top squadron are like one big family. "We don't have anybody," says the secretary of the Party organization, Pilot Barakin, "who keep to themselves. When you pass the stadium, take a good look. If you see one of our pilots, you will see the rest of them around there somewhere. When they have a game of soccer -- the whole squadron goes to the field. Both in the sky and on the ground they are always together!"

This great friendship among the fighting men is remarkable in that its warmth is felt continually, although not noticeably, as everything fine and exalted. What is so special about this? Pilot Shatalov and Lt Col Giris had been sent on a trip together on business. The squadron commander received a letter from home. His wife wrote that Vybornov had a new-born daughter. There was joy not only on the part of the father and mother but the entire collective. On the same day the father of the newly-born child received a congratulatory telegram from the mailman. At the bottom were the signatures of Giris and Shatalov. ...The spring sun shone brightly. It was an off-duty day. That morning the pilots had left for an outing. The day before young trees and bushes had been delivered to the flight training center. Not far in the distance the airfield was visible: supersonic fighters were spread

out over it like silver arrows flooded with light. The fliers were busy planting the young trees. This has a symbolic significance. These pilots fly high into the skies and foster these plants so that their native land will grow more beautiful and be crowned in glory.